

Serial No. 10/533,014
Atty. Doc. No. 2002P12570WOUS

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REMARKS

Claims 21-25 and 27-40 are pending. Claims 21, 32, and 34 are rejected under 35 U.S.C. 102(e) as being anticipated by Harrold, U.S. Patent 6,512,379 ("Harrold"). Claims 22-25, 27, 28, 30, 31, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrold in view of Khorrami 5,970,393 ("Khorrami"). Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harrold and Khorrami in further view of Deegan, U.S. Patent 5,552,711 ("Deegan"). Claims 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrold in view of Deegan. Claims 37 - 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrold and Deegan in further view of I.E.E.E. Interharmonic Task Force Publication entitled Interharmonics in Power Systems.

New claim 41 has been added.

With regard to rejections under 35 USC 102, MPEP §2131 provides that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. The identical invention must be shown in as complete detail as contained in the claim. The elements must be arranged as required by the claim.

Claim 21 includes the limitation of "a monitoring unit for determining when the signal deviates from a threshold being defined responsive to at least one of a load condition of the turbo engine and a location of the rotor blades or the guide vanes relative to an outlet of the turbo engine." Nothing in Harrold, neither explicitly nor inherently, teaches or suggests this limitation. Unlike the present invention, Harrold describes monitoring a radio frequency signal pattern 40 from a plurality of blades and/or vanes in a turbine row and then comparing radio signals 38, 40, 42, 42a from respective blades and/or vanes in the pattern 40 to identify when one of the signals deviates from other ones of the signals. See, for example, Harrold, FIG. 5 and column 6, lines 25-53. Accordingly, Harrold uses a comparison among signals to determine a signal deviation, not a comparison to a threshold. Consequently, by describing comparing signals from one blade and/or vane to signals from other blades and/or vanes to determine a signal deviation, Harrold teaches away from "a monitoring unit for determining when the signal deviates from a threshold."

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Harrold also fails to teach or suggest the limitation of the “threshold being defined responsive to at least one of a load condition of the turbo engine and a location of the rotor blades or the guide vanes relative to an outlet of the turbo engine.” Significantly, nowhere does Harrold mention anything about a load condition of a turbo engine, nor a threshold based on such a load condition. Nor does Harrold teach or suggest a threshold defined responsive to a location of blades or vanes relative to an outlet of the turbo engine. In rejecting this limitation, the Examiner cites Harrold as describing a variation of signal magnitude being responsive to a level of gas pressure in a turbo engine. The Examiner then cites Harrold as describing that the gas expands through the turbine of the turbo engine and concludes that this is relative to the outlet of the turbo engine. However, it is not believed that one skilled in the art would interpret these cited portions of Harold as teaching the limitation of a threshold responsive to blade or vane location relative to an outlet of turbo engine.

Moreover, Harrold describes analyzing signals from a row of blades or vanes in relation to their position in the row, not relative to some other part of the turbo engine. See, for example, Harrold, column 6, lines 48-53. By describing determining when signals from blades or vanes of a row deviate from signals of other blades or vanes in the same row, Harrold teaches away from determining when a signal deviates from a “threshold being defined responsive to...a location of the rotor blades or the guide vanes relative to an outlet of the turbo engine.” For all the above reasons, Harrold fails to support a rejection of claim 21 under 35 U.S.C. 102. Therefore, claim 21 is believed to be in condition for allowance.

Claim 32 includes the limitations of “defining a threshold responsive to at least one of a load condition of the turbo engine and a location of the rotor blades or the guide vanes relative to an outlet of the turbo engine; and determining when the electric or magnetic field strength deviates from the threshold.” For at least the reasons described above, Harrold fails to teach or suggests these limitations. Accordingly, Harrold fails to support a rejection of claim 32 under 35 U.S.C. 102. Therefore claim 32 is believed to be in condition for allowance.

With regard to the rejections of claims 22-25 and 27-31 under 35 U.S.C. 103(a), claims 22-25 and 27-31 depend, directly or indirectly, from claim 21 and incorporate all the limitations of claim 21. As described above with regard to the rejection of claim 21, Harrold is not believed to be a valid reference. Accordingly, the respective combinations taught by claim 21 and claims

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22-25 and 27-31 are not taught or suggested, neither alone nor in combination, by the any of the cited prior art. Therefore, claims 22-25 and 27-31 are believed to be in condition for allowance.

With regard to the rejections of claims 33-40 under 35 U.S.C. 103(a), claims 33-40 depend, directly or indirectly, from claim 32 and incorporate all the limitations of claim 32. As described above with regard to the rejection of claim 32, Harrold is not believed to be a valid reference. Accordingly, the respective combinations taught by claim 32 and claims 33-40 are not taught or suggested, neither alone nor in combination, by the any of the cited prior art. Therefore, claims 33-40 are believed to be in condition for allowance.

New claim 41 is based on claim 21 and only includes limitations that have been previously examined. Accordingly, no new matter has been added that would require a new search. Neither Harrold, nor any of the cited prior art, teaches or suggest the combination of limitations recited in new claim 41.

Conclusion

Entry of this amendment is respectfully requested. The commissioner is hereby authorized to charge any appropriate fees due in connection with this paper, including the fees specified in 37 C.F.R. §§ 1.16 (c), 1.17(a)(1) and 1.20(d), or credit any overpayments to Deposit Account No. 19-2179.

Respectfully submitted,

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